

In response to the Restriction Requirement set forth in the Office Action mailed November 1, 2006, Applicants respectfully traverse and urge reconsideration and withdrawal of the Restriction Requirement for the following reasons.

**The Claimed Inventions Share a Special Technical Feature And the Technical Feature  
Makes Over the Prior Art**

Because this application is a national stage filing pursuant to 35 U.S.C. § 371, unity of invention under PCT Rule 13.1 and 13.2 is the applicable standard. Unity of invention is fulfilled “when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical feature. The expression ‘special technical feature’ shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.” (PCT Rule 13.2).

The Examiner argues that the inventions of Groups I-XII do not relate to a single inventive concept under PCT Rule 13.1 because they lack the same or corresponding special technical feature under PCT Rule 13.2. In support, the Examiner states that the technical feature defines a transgenic organism expressing a  $\Delta 9$ -elongase and a  $\Delta 8$ -desaturase, which is known in the prior art reference WO 02/077213 (“the WO ‘213”). The Examiner concludes that the technical feature in the claims does not contribute over the cited prior art reference. Applicants respectfully disagree with the Examiner’s conclusions and characterization of the reference.

As stated in the specification and repeated in the claims, the general inventive concept of the present invention relates to a novel method of introducing nucleic acid sequences which encode a  $\Delta 9$ -elongase (*i.e.*, SEQ ID NO: 3) and a  $\Delta 8$ -desaturase (*i.e.*, SEQ ID NO: 1), or additionally encodes a  $\Delta 5$ -desaturase (*i.e.*, SEQ ID NOs: 5, 7, or 9), for the production of polyunsaturated fatty acids.

Applicants respectfully disagree that the technical feature in the present application does not make a contribution over the reference cited by the Examiner. The Examiner relies on the WO ‘213 as teaching a transgenic organism expressing a  $\Delta 9$ -elongase gene and a  $\Delta 8$ -desaturase gene. However, the WO ‘213 does not disclose the sequences encoding the  $\Delta 9$ -elongase,  $\Delta 5$ -,

and  $\Delta 8$ -desaturases as in the presently claimed invention. Thus, it is respectfully submitted that the WO '213 does not teach or disclose the sequences of this invention which encode a  $\Delta 9$ -elongase,  $\Delta 8$ -desaturase, or  $\Delta 5$ -desaturases nor their use in the recited combinations for the production of polyunsaturated fatty acids. Therefore, the Patent Office has not established the presence in the prior art of the special technical feature as in the present patent application.

Accordingly, Applicants respectfully request that the Examiner reconsider the Restriction Requirement and examine all the claims in one application.

The Examiner argues that Groups I and II-IV do not share their technical feature because these methods steps use microorganisms expressing different genes having different technical features. Applicants respectfully disagree.

The method steps in Groups I and II-IV relate to production of polyunsaturated fatty acids using transgenic organisms expressing a  $\Delta 9$ -elongase gene and a  $\Delta 8$ -desaturase gene, or additionally expressing a  $\Delta 5$ -desaturase gene, by introducing at least the first two genes into the organisms. Even though the genes expressed in the transgenic organisms are different, they are integral parts of the present application and their shared technical feature, considered as a whole, contributes to the novelty of the claimed method for production of polyunsaturated fatty acids (*i.e.*, the method of using transgenic organisms expressing particular types of elongase and desaturase for making the recited polyunsaturated fatty acids).

Accordingly, Applicants respectfully request that the Examiner reconsider the Restriction Requirement and examine all the claims in one application.

The Examiner argues that Groups V-XII's technical features are different compounds and they do not share a same technical feature because these compounds have their own technical features. Applicants respectfully disagree.

The novel desaturase nucleic acid sequences (their corresponding plasmids, vectors, and transformants) and polypeptide sequences in Groups V-XII are integral parts of the method steps in the present invention for the production of polyunsaturated fatty acids. Also, their technical

feature, considered as a whole, contributes to the novelty of the present invention (*i.e.*, the method of using transgenic organisms expressing particular types of elongase and desaturase for making the recited polyunsaturated fatty acids). Furthermore, the search for these sequences will not impose any additional burden because the examination of any group in Groups I-IV (claims 1-9) requires the same search.

Accordingly, Applicants respectfully request that the Examiner reconsider the Restriction Requirement and examine all the claims in one application.

The Examiner argues that Groups V and I do not share the same technical feature because the products of Group V can be used in other process such as making protein of Group VI. Similarly, the Examiner argues that Groups VII-IX and Groups II-IV do not share the same technical feature because the products in Groups VII-IX can be used in other processes such as making proteins in Groups X-XII. Applicants respectfully disagree.

The desaturase nucleic acid sequences in Groups V and VII-IX are the integral parts of the technical feature of the present patent application for a method producing polyunsaturated fatty acids as recited in claims 1-9 (Groups I-IV). The products in Groups V and VII-IX, when used in the method steps as recited in the present patent application, generate transgenic organisms producing the polyunsaturated fatty acids as recited in the present patent application. That the transgenic organisms thus generated can be used to make proteins does not defeat the same technical feature shared by Groups V and VII-IX with Groups VI and IX-XII, respectively.

Accordingly, Applicants respectfully request that the Examiner reconsider the Restriction Requirement and examine all the claims in one application.

### **Conclusion**

For the above reasons, Applicants respectfully request that the Restriction Requirement be reconsidered and withdrawn.

In the event that the Examiner decides to maintain the original Restriction Requirement, Applicants provisionally elect **Group II** (claims 1-9) with traverse.

Applicants are submitting their response herewith within the one-month extension of time. A Petition for an Extension of Time for one-month authorizing payment of \$120.00 for the time extension is enclosed. No other fees are believed due. However, if an additional fee is due, the Director is authorized to charge our Deposit Account No. 03-2775, under Order No. 13478-00001-US from which the undersigned is authorized to draw.

Respectfully submitted,

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